Exam. Code : 103202

Subject Code: 1037

B.A./B.Sc. 2nd Semester QUANTITATIVE TECHNIQUES—II

Time Allow 1—3 Hours [Maximum Marks—100

Note:—Attempt FIVE questions in all, Question No. 1 is compulsory and attempt ONE question from each of the four units.

- 1. (i) Define the scope of Statistics.
 - (ii) What are the advantages of graphical presentation of data?
 - (iii) Explain classification of arta.
 - (iv) What do you understand by central tendency?
 - (v) The mean and S.D. of 50 observations are 30 and 15 respectively. Find the new mean and S.D. if 5 are added to each observation.
 - (vi) What are regression coefficients?
 - (vii) What is rank correlation?
 - (viii) Distinguish between positive and negative correlation.
 - (ix) What are the components of time series?
 - (x) What is an index number ? $2 \times 10 = 20$

2529(2416)/QFV-51540

(Contd.)

UNIT-I

2. What do you mean by tabulation? What are the objectives and advantages of tabulation of data?

20

- 3. (a) Discuss significance and limitations of statistics.
 - (b) Draw a histogram from the following data:

Wages (Rs.)	No. of Workers	
10-20	etiau na 8 min	
20—30	12 mg	onest to
30—40	20	
40—50	10	
50—60	elas Vacation of d	
•60—70	designation 3	1010

UNIT—II

4. Calculate the mean, median and node from the following data:

Marks	Frequency	
0—20	3	
20—40	17	
40—60	27	
60—80	20	
80—100	9 nat is an index num	6,7,7

- 5. (a) Calculate S.D. from the following data: 240.12, 240.13, 240.15, 240.12, 240.17 240.15, 240.17, 240.16, 240.22, 240.21
 - (1) Calculate Karl Pearson's coefficient of skewness:

Variable	Frequency	
0—10	5	
10—20	6	
2039	galwallo 11 man	
30—40	21.	
40—50	35	
50—60	30	
60—70	22	
70—80	10	10,10

UNIT—III

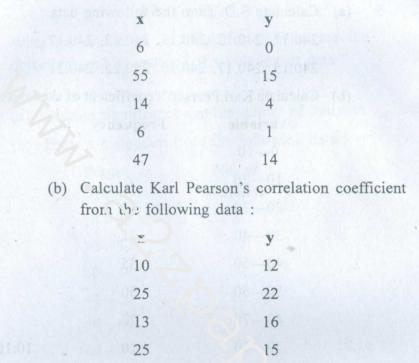
6. (a) Find the coefficient of rank correlation for the following data:

X	y
38	8
23	8
30	19
4	La man la managa fo
6	10
529(2416)/OFV 51540	3

2529(2416)/QFV-51540

3

(Contd.)



21 24 20 17

22

11

12

25

7. In a partially destroyed laboratory record of an analysis of correlation data, the following results only are legible.

17

23

Variance of x = 9

2529(2416)/QFV-51540

4

(Contd.)

10,10

Regression equations:

$$8x - 10y + 66 = 0$$

 $40x - 18y = 214$

First on the basis of the above information:

- (i) The mean values of x and y
- (ii) Conficient of correlation between x and y
- (iii) Standard deviation of y.

20

UNIT-IV

- 8. (a) Describe briefly the problems faced in the construction of an index number of prices.
 - (b) Calculate Fisher's ideal Index from the following data and prove that it satisfies both the time reversal and factor reversal tests:

Commodity	Base Year		Current Year	
	Price	Qty.)'rice	Qty.
A	6	50	10	56
В	2	100	2	120
C	4	60	6	60
D	10	30	12	2+

10,10

9. (a) Explain any one method of measuring seasonal variation in time series data.

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(b) Fit a straight line trend for the following data and estimate the value for 2004:

Year	Production (Rs. lakhs	
1997	60	
1998	72	
1999	75	
2000	65	
2001	80	
2002	85	
2003	95	10,10